Amendments to the Drawings:

Please replace Figure 2 of the originally-filed specification with the attached Replacement Drawing sheet to clarify the reference labels for array element 3.

Attachment:

Replacement Sheet: Figure 2

REMARKS

The Applicant has carefully reviewed and considered the Examiner's Office Action dated May 29, 2008, in which claims 1, 7-8, and 18-23 are allowable over the prior art of record and claims 11-12 and 14-16 were indicated as containing allowable subject matter. This Amendment accompanies a Request for Continued Examination (RCE) to ensure consideration of the patent document submitted with the concurrently-filed Information Disclosure Statement. Reconsideration of the Office Action is respectfully requested in view of the following comments.

By this Amendment, the specification is revised, claims 1, 2, 5, 10-11; 13-15, 17, 20 and 21 are amended, claim 24 is canceled, and new claims 25-30 are added in order to more particularly point out and distinctly claim the subject matter of the present invention without adding any new matter, and a replacement drawing sheet of Figure 2 is attached. Accordingly, Claims 1-23 and 25-30 are pending in the present application.

The disclosure was objected to because of a number of informalities listed on page 2 of the Office Action. The foregoing amendments to the specification adopt the language requested by the Examiner. In addition, Figure 2 of the drawings is replaced to describe the reference legend of ARRAY ELEMENT 3 as requested by the Examiner. Accordingly, it is believed that the objections to the disclosure are overcome by adopting the Examiner's language.

Claims 2-6 and 9 were rejected under 35 U.S.C.§112, first paragraph because the specification fails to provide a written description of the claimed invention. By the foregoing amendments to the specification, the adjective "copper" was replaced so that the claims recite "copper plate", as in the originally-filed specification. Consequently, it

is believed that this rejection under 35 U.S.C. §112 is overcome. Withdrawal of this rejection is respectfully requested.

Furthermore, Applicant believes that newly added claims 25-26 do not include any new matter because various modifications are possible without departing from the scope and spirit of the present invention as stated on page 14, lines 20-25 of the originally-filed specification of the present invention. That is, while a copper plate was disclosed as the preferred embodiment for illustrative purposes, those skilled in the art would understand that "various modifications, additions and substitutions are possible". Consequently, one of ordinary skill in the art would appreciate that copper is not the only metal that conducts electromagnetic energy and other metals/materials are acceptable. Thus, the claimed invention should not be limited to the preferred embodiment only, but should allow those "various modification, additions and substitutions" to the preferred embodiment as recited on page 14, lines 20-25 of the originally-filed application. It is respectfully submitted that new claims 25-26 are supported in the originally-filed specification through express (page 14, lines 20-25), implicit (modifications known to those of ordinary skill in the art at the time of the invention) and inherent disclosure. See MPEP 2163 B (paragraph spanning columns 1 and 2).

Claims 2-6 and 9 were rejected under 35 U.S.C.§112, second paragraph for the reasons set forth from the middle to the end of page 3 of the Action. In particular, the Examiner is unclear as to what the term "induction unit" defines. The induction unit of the claimed invention is used for electromagnetic induction. Accordingly, the first and second induction units and the dielectric are used to transport an electric power by electromagnetic bond, as recited in original claim 5.

Further, "on the same plane" as used in claims means "located at the same plane [or level]", and thus, the input port (10), the first induction unit (13) and the phase delay units (17A and 17B) are located at the same plane, and the second induction unit (14) and the phase shift unit (15) are located at the same plane, as respectively shown in Figs. 3 and 5. While a more wordier claim could recite that the first induction unit is on a first plane and the input port is on the first plane and the second induction unit is on a second plane and the phase shift means is formed on the second plane, it is believed that "on the same plane" is clear as it defines a physical location of recited elements rather than introducing a new element. Basically, each recited element is inherently on a plane or level and the claim recites which elements are on the same plane or level. Moreover, it is known to those skilled in the art that a plurality of copper plate patterns of the phase delay means are located at the same plane of the phase delay means as shown in Fig. 5 of the present application.

With respect to claim 5, the definite article "the" has been replaced with the indefinite article "a". Thus, claim 5 no longer recites the objected to terminology. The foregoing comments explain that one of ordinary skill in the art would understand what the recited elements "first and second induction units" are, the meaning of the phrase "on the same plane" and the amendment to claim 5. It is respectfully submitted that claims 2-6 and 9 are fully definite under 35 U.S.C. §112, second paragraph, and withdrawal of this rejection and indication that claims 2-6 and 9 are allowed over the prior art of record is requested.

Claim 10 was rejected under 35 U.S.C. § 102(b) as being unpatentable over Takashi et al. (JP 11-355038, hereinafter referred to as "Takashi"), claims 13 and 17 were

rejected under 35 U.S.C. § 102(b) as being unpatentable over Zimmerman et al. (US 2006/0273864, hereinafter referred to as "Zimmerman"), and claim 24 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Takashi and Phillips et al. (US 2003/0076198, hereinafter referred to as "Phillips"). Applicant traverses the rejection for the following reasons.

First, relating to claim 10, the Examiner maintains his position that parts located at the far left side shown in Fig. 1 of Takashi correspond to a power divider of the claimed invention. However, Takashi is directed to an antenna that employs an input on either side of the antenna elements (+45°, -45°). There is no phase shifter comprising power dividing means and no output ports for outputting the second divided signal having the fixed phase value in Takashi. Instead, the second divided signal of Takashi is coupled to the antenna element. Since Takashi needs an additional signal divider (on the far right side), a radio signal fed into a metallic contact between a fixed part (the two center antenna elements) and a variant part (the outer antenna elements on either side of the fixed part) is likely to go through an intermodulation since the phase shift units are turned by certain degrees to vary the phase of the input signal coming from the right-hand side of Takashi.

While the Examiner asserts that the at least two signals of Takashi are shifted based on a path length of the two signals, the recited path length of the claimed invention is different than the wiper length. In Takashi, a signal coming from the same wiper can have a longer path length (one signal goes to the antenna element 2 away from the fixed center signal antenna elements and the other signal goes to an antenna element next to the fixed center signal antenna). On the contrary, in the claimed invention, the recited phase

shifter has a power dividing unit inside to thereby manufacture a small size of the phase shifter having the power dividing function. Therefore, Takashi fails to disclose the power dividing means where the first divided signal is divided into at least two signals and the phase of the at least two signals are shifted based on a path length of the two signals and the recited output port for outputting the second signal having the fixed value. Consequently, Takashi cannot anticipate the claimed invention as it is absolutely different from the claimed invention.

Second, relating to the claims 13 and 17 of the present application, the Examiner insists that the phase delay unit (17A and 17B) of the claimed invention corresponds to an arc shape conductive strip (8 and 9) of Zimmerman. Referring to Figs. 5 to 7 of the present application, the phase delay unit of the claimed invention is formed in an "arc-shaped comb" so that a signal delay is maximized. In other words, since a small change in the angular displacement made by the phase shift unit (15) makes a big difference in delay of the signal, thereby maximizing the beam tilt of an antenna in vertical directions. However, in Zimmerman, the arc shape conductive strip (8 and 9) is not shaped like a comb, as recited in claim 13, but is just an arc-shaped strip. Accordingly, in Zimmerman, it is difficult to expect minimizing the signal delaying as described in the present invention. Accordingly, Zimmerman fails to anticipate the claimed invention because it does not disclose the recited phase delay unit formed in an arc-shaped comb, or, an arc-shaped comb phase delay unit of independent claim 13. Zimmerman cannot render the claimed invention because its function is absolutely different from the claimed invention.

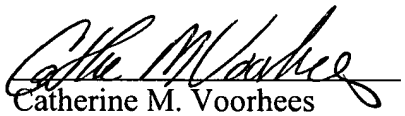
Third, Applicant believes that the rejection against claim 24 should be withdrawn as claim 24 is canceled in the foregoing amendments.

Third, Applicant believes that the rejection against claim 24 should be withdrawn as claim 24 is canceled in the foregoing amendments.

For the above stated reasons, it is submitted that all of the claims are patentable over the prior art of record and are in condition for allowance. Therefore, it is respectfully submitted that this application be passed to issuance with claims 1-23, and 25-30.

Should the Examiner believe that a conference would advance the prosecution of this application, he is encouraged to telephone the undersigned counsel to arrange such a conference.

Respectfully submitted,



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